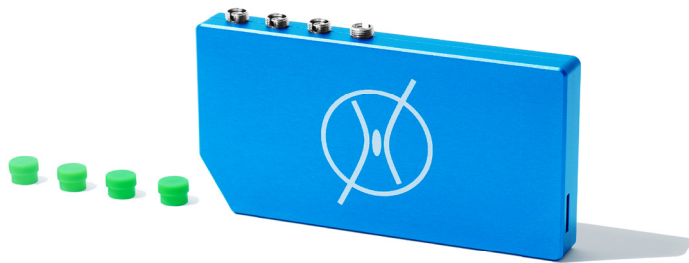


Datasheet Rev2- January 2024



Key Features

Plug & Play	High Thermal Stability
Ultra-compact	Energy-efficient
Low Weight	On-board FBG Analysis
High Precision	

Applications

Process Control
 Predictive Maintenance
 Condition Monitoring
 Thermal Mapping

Used for

Force
 Strain
 Pressure
 Temperature

FiSpec FBG X400

Ultraminiature, precise and rugged fully-integrated FBG Interrogator with embedded light source and on-board processing.

Overview

With an unprecedented small size, the FBG X400 integrates all necessary components for the accurate analysis of up to 120 fiberBragg grating (FBG) sensors. Its compact and energy-efficient design enables FBG based applications where space and power is limited.

Performance Properties

Number of Channels	4
FBG Sensors per Channel	30
Sampling Range	1-200Hz (simultan.)
Wavelength Range	808-880nm
Measurement Precision	from 0,1°C 1µe (10Hz)
Digital Measurement Res.	0,01°C 0,01µe
Thermal Stability	<0,1°C/°C
Polarization Dependency	±7µe/±0,7°C

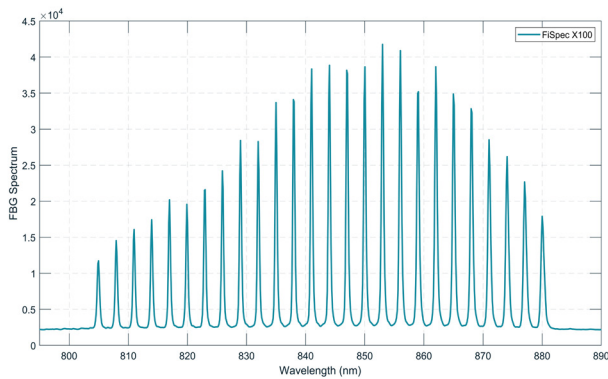
Physical Properties

Operating Temperature	0-60°C
Storage Temperature	0-80°C
Dimensions	123 x 68.5 x 15.3mm
Weight	120g
Power Consumption	1,5W

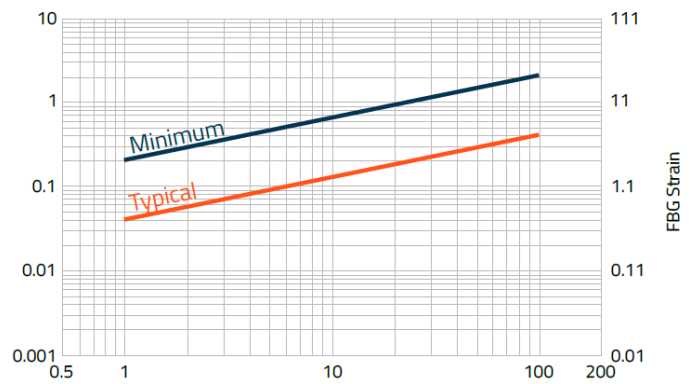
Communication

Optical Interface	FC/APC
Electrical Interface	USB, UART (RS-232)
Software Protocol	User Data Protocol (UDP)
Hardware Protocol	Direct Serial Communication

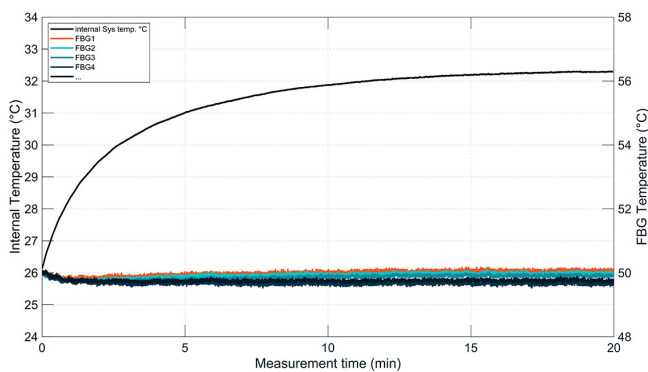
Exemplary FBG Spectrum @ 850nm



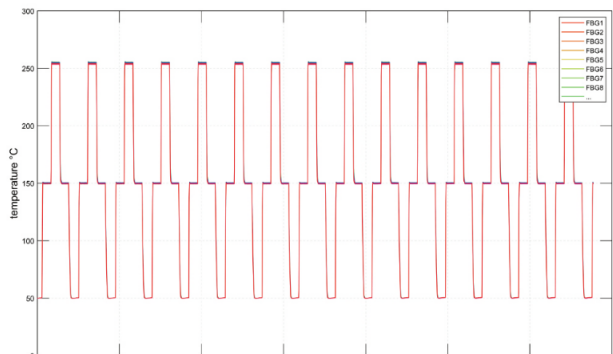
Precision 2σ noise level



Heat-up Behavior



High Repeatability



Technical Drawing

